APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,641	12/14/2006	Daniel Scheibli	09432.0065	2211

60668   7590   11/13/2008
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EXAMINER
LINDSEY, MATTHEW S

ART UNIT	PAPER NUMBER
2451	

MAIL DATE	DELIVERY MODE
11/13/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
	10/574,641	SCHEIBLI, DANIEL
Office Action Summary	Examiner	Art Unit	
	MATTHEW S. LINDSEY	2451	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *20 August 2008*.

2a) ☐ This action is FINAL.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-20* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-20* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☒ All b)☐ Some * c)☐ None of:

   1. ☒ Certified copies of the priority documents have been received.

   2. ☐ Certified copies of the priority documents have been received in Application No. _____.

   3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-20 are pending in this application. Claims 1, 7 and 8 are amended as

filed on 20 August 2008.

Continued Examination Under 37 CFR 1.114

2.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 20

August 2008 has been entered.

Drawings

3.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5)

because they do not include the following reference sign(s) mentioned in the

description: 971/972 (pg 12). Corrected drawing sheets in compliance with 37 CFR

1.121(d) are required in reply to the Office action to avoid abandonment of the

application. Any amended replacement drawing sheet should include all of the figures

appearing on the immediate prior version of the sheet, even if only one figure is being

amended. Each drawing sheet submitted after the filing date of an application must be

labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37

CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be

notified and informed of any required corrective action in the next Office action. The

objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 101

4.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

5.   Claims 7 and 11-15 are rejected under 35 U.S.C. 101 because the claimed

invention is directed to non-statutory subject matter. The claims are directed to "A

computer readable medium", and according to applicants specification the computer

readable medium can include paper (pg 11) and also suggests the use of signals (pg

10, 2nd paragraph, pg 11-12). As such the claims are drawn to a form of energy.

Energy is not one of the four categories of invention and therefore these claims are not

statutory. Energy is not a series of steps or acts to be a process. Energy is not a

physical article or object and as such is not a machine or manufacture. Energy is not a

combination of substances and therefore not a composition of matter.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

7.   **Claims 1-8, 11-13 and 16-19 are rejected under 35 U.S.C. 103(a) as being**

unpatentable over Kawata et al. (US 2002/0032777) in view of Choquier (US

5,951,694).

8.   With respect to Claim 1, Kawata disclosed: "A method for use in a computer

system comprising at least one first computer in an existing cluster of computers (Fig 1,

objects 107, and 108, and [0037], lines 6-8)", "the system for processing consecutive

inquiries of an external computer ([0037], lines 4-8), the method comprising:

observing the processing time that the first computer requires for processing a

first inquiry of the external computer ([0082], lines 11-20)", and

"rerouting of a second inquiry from the first computer to the second computer

([0040], lines 1-5) if the processing time exceeds a standard time ([0067], lines 3-8,

where it is possible to select servers in a round-robin fashion where if a load evaluation

value of the selected server is at or greater than a threshold value the server is not

selected and the next server in the round-robin is selected, and where the load

evaluation value includes response time as shown by [0076], lines 1-7), the method

being characterised in that the standard time is dependent on the type of inquiry ([0044],

lines 11-14)".

    Kawata did not ecxplicitly state: "and one second computer", or "performing an

availability test to identify the second computer; incorporating the second computer into

the existing cluster, if, based on the availability test, no suitable computer is available in

the existing cluster".

    However, Choquier disclosed: "and one second computer (Col. 23, lines 36-37,

where a second computer is in the pool of unused servers)", or "performing an

availability test to identify the second computer (Col. 23, lines 37-40 and Fig. 13, where

based on the server load, if it is above the max load, a second computer is identified to

be added to the cluster from the pool of unused servers); incorporating the second

computer into the existing cluster, if, based on the availability test, no suitable computer

is available in the existing cluster (Col. 23, lines 37-40 and Fig. 13, where when no

suitable computer is available in the existing cluster, or step 1312 of Fig 13, the second

computer is added to the cluster, or step 1314 of Fig 13)".

    It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify the load balancing system of Kawata with the teachings of Choquier

to include support for adding computers from outside the cluster to accommodate for

excess load. Motivation to combine these references comes from Choquier, where:

"Loads placed on particular services (or equivalently, particular service groups) may

fluctuate relative to one another on a daily basis due to fluctuations in usage of different

services... To accommodate for such fluctuations in service usage levels, the on-line

services network 100 allocates servers 120 to service groups based on service loads"

(Col. 23, lines 27-35). Therefore, by combining the references one can accommodate

for fluctuations in service usage.

9.   With respect to Claim 7, Kawata disclosed: "A computer-readable medium

([0104], lines 1-5) that stores a set of instructions that when executed performs a

method of routing external computer inquires ([0037], lines 4-8), the computer-readable

medium executed by the set of instructions comprising:

        prompting an application to observe the processing time that a first computer in

an existing cluster of computers (Fig 1, objects 107, and 108, and [0037], lines 6-8)

requires for processing a first inquiry of an external computer ([0082], lines 11-20)", and

        "prompting the application to reroute a second inquiry from the first computer to

the second computer ([0040], lines 1-5) if the processing time exceeds a standard time

([0067], lines 3-8, where it is possible to select servers in a round-robin fashion where if

a load evaluation value of the selected server is at or greater than a threshold value the

server is not selected and the next server in the round-robin is selected, and where the

load evaluation value includes response time as shown by [0076], lines 1-7),

        wherein the standard time is dependent on the type of inquiry ([0044], lines 11-

14)".

        Kawata did not explicitly state: "prompting the application to perform an

availability test to identify a second computer" or "prompting the application to

incorporate the second computer into the existing cluster, if, based on the availability test, no suitable computer is available in the existing cluster".

However, Choquier disclosed: "prompting the application to perform an availability test to identify a second computer (Col. 23, lines 37-40 and Fig. 13, where based on the server load, if it is above the max load, a second computer is identified to be added to the cluster from the pool of unused servers)", and "prompting the application to incorporate the second computer into the existing cluster, if, based on the availability test, no suitable computer is available in the existing cluster (Col. 23, lines 37-40 and Fig. 13, where when no suitable computer is available in the existing cluster, or step 1312 of Fig 13, the second computer is added to the cluster, or step 1314 of Fig 13)".

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the load balancing system of Kawata with the teachings of Choquier to include support for adding computers from outside the cluster to accommodate for excess load. Motivation to combine these references comes from Choquier, where: "Loads placed on particular services (or equivalently, particular service groups) may fluctuate relative to one another on a daily basis due to fluctuations in usage of different services... To accommodate for such fluctuations in service usage levels, the on-line services network 100 allocates servers 120 to service groups based on service loads" (Col. 23, lines 27-35). Therefore, by combining the references one can accommodate for fluctuations in service usage.

10.   With respect to Claim 8, Kawata disclosed: "A system for processing consecutive

inquiries from an external computer ([0037], lines 4-8) comprising: a first computer in an

existing cluster of computers (Fig 1, objects 107, and 108, and [0037], lines 6-8)" and

"an application operative to observe the processing time that the first computer requires

for processing a first inquiry of an external computer ([0082], lines 11-20) and to reroute

a second inquiry from the first computer to the second computer ([0040], lines 1-5) if the

processing time exceeds a standard time ([0067], lines 3-8, where it is possible to select

servers in a round-robin fashion where if a load evaluation value of the selected server

is at or greater than a threshold value the server is not selected and the next server in

the round-robin is selected, and where the load evaluation value includes response time

as shown by [0076], lines 1-7), wherein the standard time is dependent on the type of

inquiry ([0044], lines 11-14)".

        Kawata did not explicitly state: "a second computer" or "an application operative

to perform an availability test to identify the second computer; incorporate the second

computer into the existing cluster, if, based on the availability test, no suitable computer

is available in the existing cluster".

        However, Choquier disclosed: "a second computer (Col. 23, lines 36-37, where a

second computer is in the pool of unused servers)" or "an application operative to

perform an availability test to identify the second computer (Col. 23, lines 37-40 and Fig.

13, where based on the server load, if it is above the max load, a second computer is

identified to be added to the cluster from the pool of unused servers); incorporate the

second computer into the existing cluster, if, based on the availability test, no suitable

computer is available in the existing cluster (Col. 23, lines 37-40 and Fig. 13, where

when no suitable computer is available in the existing cluster, or step 1312 of Fig 13,

the second computer is added to the cluster, or step 1314 of Fig 13)".

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify the load balancing system of Kawata with the teachings of Choquier

to include support for adding computers from outside the cluster to accommodate for

excess load. Motivation to combine these references comes from Choquier, where:

"Loads placed on particular services (or equivalently, particular service groups) may

fluctuate relative to one another on a daily basis due to fluctuations in usage of different

services... To accommodate for such fluctuations in service usage levels, the on-line

services network 100 allocates servers 120 to service groups based on service loads"

(Col. 23, lines 27-35). Therefore, by combining the references one can accommodate

for fluctuations in service usage.

11.   With respect to Claims 2, 11 and 16, Kawata disclosed: "wherein the standard

time is dependent on the configuration of the first computer ([0039], lines 1-4 and

[0070], lines 1-15, where depending on the processing power of the server, the load

evaluation levels differ)".

12.   With respect to Claims 3, 12 and 17, Kawata disclosed: "wherein the processing

time is determined relative to a quantity of data ([0044], lines 11-14)".

13.   With respect to Claims 4, 13 and 18, Kawata disclosed: "wherein the processing

times of consecutive inquiries are taken into account during observation ([0040], lines 1-

5, where the server with the lightest load is selected, hence the server that is processing

the least intensive previous inquiries)".

14.   With respect to Claim 5, Kawata disclosed: "The method according to claim 1

wherein the step of observing is performed by an observer module ([0076], lines 1-7,

where the load evaluation generation processing module generates load evaluation

values) and the step of rerouting is performed by a rerouter module ([0069], lines 1-3,

where the load balancer distributes service requests and [0067], lines 3-8, where if a

load evaluation value is at or greater than a threshold value, the next server in the round

robin is selected)".

15.   With respect to Claim 6, Kawata disclosed: "The method according to claim 1,

wherein the steps of observation and rerouting are induced by a management program

within the system ([0038], lines 1-5)".

16.   Claims 9, 14 and 19 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Kawata and Choquier in view of Boyd et al. (US 7,251,691 B2).

1.   With respect to Claims 9, 14 and 19, the combination of Kawata and Choquier

did not explicitly state: "wherein the processing time is the floating average time that the

first computer requires for processing a stipulated number of inquiries".

        However, Boyd disclosed: "wherein the processing time is the floating average

time that the first computer requires for processing a stipulated number of inquiries (Col.

3, lines 21-26, specifically moving average)".

        It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify the load balancing system of Kawata and Choquier with the

teachings of Boyd to include support for floating, or moving averages. Motivation to

combine these references comes from Boyd, where: "The operation of the present

invention is autonomic by continuously updating the average latency time for each

storage device. The updated average latencies for each storage device are used each

time a new consistent transactions set is transferred to the peer computers for storage.

The updated average latency time is based upon a moving average with adjustable

weighting of past and present measurements. This enables the present invention to

adapt to changing conditions" (Col. 3, lines 19-27). Therefore by combining the

references the load balancing system of Kawata can include using moving averages to

adapt to changing conditions.

2.   **Claims 10, 15 and 20 are rejected under 35 U.S.C. 103(a) as being**

unpatentable over Kawata and Choquier in view of Hayashi et al. (US 6,598,071

B1).

3.   With respect to Claims 10, 15 and 20, the combination of Kawata and Choquier

did not explicitly state: "wherein the standard time is fixed relative to a stipulated number

of inquiries such that rerouting occurs only when the processing time exceeds the

standard time in more than a predetermined number of allowed incidences".

However, Hayashi disclosed: "wherein the standard time is fixed relative to a

stipulated number of inquiries (Col. 7, lines 56-67, where a response time results

threshold must be exceeded a fixed number of times) such that rerouting occurs only

when the processing time exceeds the standard time in more than a predetermined

number of allowed incidences (Col. 7, lines 56-67, where a response time result

exceeds a threshold a fixed number of times and Col. 8, lines 26-35 where a substitute

server is used instead)".

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify the load balancing system of Kawata and Choquier with the

teachings of Hayashi to include support for exceeding a threshold a predetermined

number of times before rerouting requests. Motivation to combine these comes from

Hayashi, where: "The reason for using a fixed number of times for measurement results

exceeding the threshold values as a criterion for whether switching is needed or not, is

that even if the response time is momentarily bad and exceeds the threshold value, the

average traffic load will probably present no problems during communication if the

number of times the threshold value was exceeded is low" (Col. 7, lines 60-67).

Therefore by combining the references needless rerouting can be avoided if the

threshold value is exceeded less than a fixed number of times.

Response to Arguments

4.   Applicant's arguments with respect to claims 1-20 have been considered but are

moot in view of the new ground(s) of rejection.

Conclusion

        Any inquiry concerning this communication or earlier communications from the

examiner should be directed to MATTHEW S. LINDSEY whose telephone number is

(571)270-3811. The examiner can normally be reached on Mon-Thurs 7-5, Fridays 7-

12.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John Follansbee can be reached on (571) 272-3964. The fax phone

number for the organization where this application or proceeding is assigned is 571-

273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MSL
11/10/2008

/John Follansbee/

Supervisory Patent Examiner, Art Unit 2451